UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,458	05/15/2006	Michael Gieseler	2642.020	3025

23405 7590 11/23/2009

HESLIN ROTHENBERG FARLEY & MESITI PC
5 COLUMBIA CIRCLE
ALBANY, NY 12203

EXAMINER	
CURS, NATHAN M	

ART UNIT	PAPER NUMBER
2613	

MAIL DATE	DELIVERY MODE
11/23/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,458	GIESELER ET AL.	
	Examiner	Art Unit	
	NATHAN M. CURS	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5 and 7* is/are rejected.

7)☒ Claim(s) *2,4,6,8 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 July 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 5 each recite "a receiver operating according to the FAST Infrared (FIR) IrDA standard." However, the IrDA standard is an extensive document covering several set features, specifications and functions, including alternatives and examples. Limiting to the receiver's operation to the entire standard fails to particularly point out and distinctly claim which of the multitude of features, specification and functions of the standard are limiting the scope of Applicant's invention. For example, after the standard is invoked, is the structure of the receiver such that it complies with the "Low Power Option" or is it instead structured to comply with the alternative "Standard" option? Is the receiver structured to comply with 9.6 kbps operation, 115.2 kbps operation, or an alternative rate?

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ransijn (US Patent No. 5014286) in view of Admitted Prior Art ("APA") (Remarks of 15 July 2009 page 7 lines 10-13), and further in view of Holcombe (US Patent No. 6240283), and further in view of Beard (US Patent No. 5838471).

Regarding claim 1, Ransijn discloses a method for forming and output reception pulse in an optical receiver wherein an input signal from an upstream detector that recognizes light pulses is newly formed and output as the output reception pulse (fig. 1 elements 11 and 12 and col. 3 lines 20-29) for evaluation by means of a downstream arrangement (fig. 1 the arrangement of elements 13 and 14 and col. 3 lines 20-41, where the sample and decoding circuit evaluates the received pulses), wherein: in a first step, the input signal is delivered by an upstream amplifier is delayed by a delay arrangement (fig. 1 delay 15 delays the signal from amplifier 12; col. 3 lines 30-35); generation of a time reference by a time reference generation arrangement controlled by the input signal is started (fig. 1 element 14 and col. 3 lines 20-31, where the recovered clock signal is a time reference controlled by the input signal); controlled by the input signal delayed in the first step, forming of an output reception pulse by an output pulse production arrangement is started (fig. 1 and col. 3 lines 20-29, where the recovered data output signal comprises output pulses and is controlled by the delayed input signal by way of the clock recovery circuit's control of the sample and decode circuit); upon completion of the generation of the time reference, an examination of a

level of the input signal is conducted (fig. 1 element 13 and col. 3 lines 29-30, where the sample and decoding circuit examines the level of the input signal dependent on the recovered clock). Ransijn discloses detecting and amplifying the received signal (fig. 1 element 11 and 12), but does not disclose that the optical receiver operates according to FIR IrDA, and does not disclose an upstream comparator recognizing the light pulses. Holcombe dislcoses an improved noise immunity IrDA receiver that has a comparator recognizing light pulses (fig. 1 and col. 1 line 66 to col. 2 line 61), and APA discloses that the FIR IrDA standard is well known. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a comparator-based IrDA receiver like that of Holcombe, in place of the basic receiver arrangement of Ransijn, to provide the benefit of receiving infrared transmissions with improved noise immunity. Further, one of ordinary skill in the art at the time of the invention could have made the resulting IrDA receiver compliant with the FIR IrDA standard, and the results would have been predictable; namely, the receiver would be interoperable with other FIR IrDA equipment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the resulting IrDA receiver compliant with the FIR IrDA standard, for the predictable result of a receiver interoperable with other FIR IrDA equipment.

Also, the examination of the level of the input signal in Ransijn does not carry out a back-reference to duration of the output reception pulse, and the duration of the output reception pulse is not adjusted by the output pulse production arrangement subject to results of the examination, wherein duration of the output reception pulse is

independent of actual pulse duration of the input signal delivered by the upstream comparator. Beard discloses infrared data transmission according to IrDA including receiving a signal and feeding the signal to an IrDA decoder which adjusts pulse widths by decompressing the signal pulses back-referenced to compressed pulses, where the decompression is a based on a predetermined ratio that is independent of the actual input pulse duration (fig. 1 and col. 2 line 65 to col. 3 line 12 and col. 3 lines 25-39, where the predetermined decompression ratio of 16/3 is independent of the actual input pulse duration). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the existing decoder of the combination, using a decoder like that of Beard which decompresses the received pulses back-referenced to their compression, to provide the benefits of accepting power-saving compressed IrDA pulses with robust recovery of the data through decompression.

Regarding claim 3, the combination of Ransijn, APA, Holcombe and Beard discloses the method according to claim 1, wherein the generation of the time reference by the time reference generation arrangement is started by the input signal or the input signal delayed in a first partial step (Ransijn: fig. 1 element 15, where the delaying is a first partial step in the clock recovery).

5. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akashi (US Patent Application Publication No. 2002/0154373) in view of Nishizono et al. ("Nishizono") (US Patent Application Publication No. 2004/0075484) and further in view of in view of APA (Remarks of 15 July 2009 page 7 lines 10-13).

Regarding claim 5, Akashi discloses an arrangement for forming an output reception signal in an optical receiver (fig. 1) wherein an input comparator signal from an upstream comparator that recognizes light pulses is newly formed (fig. 1 element 2R Regenerator 1, which recognizes light pulses and compares them to a threshold, paragraphs 0003-0004) for evaluation by a downstream arrangement (fig. 1 element Bit synchronizer 2 and paragraphs 0005-0009), wherein an input of a delay arrangement is connected to an output of the upstream comparator, for supply of the input comparator signal (fig. 1, the input of the delay arrangement made up of elements 200-20n and 210-21n, coming from element 12), wherein a first output of the delay arrangement is connected to a first input of a down stream output pulse producing arrangement (fig. 1, the output of element 200 of the delay arrangement is input to the output pulse producing arrangement made up of elements 21, 220-22n and 22) and a second output of the delay arrangement is connected to a time reference generating arrangement, the first and second outputs being different outputs of the delay arrangement (fig. 1, the output of element 211 of the delay arrangement is a different output than above, and is input to the time reference generating element 20, paragraph 0008-0009, where detecting change points of the input signal and outputting a result reads on generating a time reference), wherein an output of the time reference generating arrangement is connected to a second input of the output pulse producing arrangement (fig. 1 time reference element 20 connected to element 21 of the output pulse producing arrangement) and, wherein an output of the output pulse producing arrangement is connected to the output of the arrangement for forming the output reception pulse (fig. 1

the output of the selector as the output of the fig. 1 arrangement), wherein duration of the output reception pulse is adjusted by the output pulse producing arrangement, and duration of the output reception pulse is independent of actual pulse duration of the input comparator signal (paragraphs 0011 and 0012, where the output pulse duration is only based on the center phase of the input pulse, not on the actual width of the input pulse). Akashi discloses that the optical receiver is for burst transmission (paragraph 0002), but does not disclose the receiver operating according to the FIR IrDA standard. However, Nishizono discloses that IrDA communications are generally burst signal (paragraph 0019), and APA discloses that the FIR IrDA standard is well known. It would have been obvious to one of ordinary skill in the art at the time of the invention to user the receiver of Akashi for IrDA communications, to provide the benefit of a receiver for IrDA communications that copes with pulse width degradation (Akashi: paragraph 0012). Further, one of ordinary skill in the art at the time of the invention could have made the resulting IrDA receiver compliant with the FIR IrDA standard, and the results would have been predictable; namely, the receiver would be interoperable with other FIR IrDA equipment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the resulting IrDA receiver compliant with the FIR IrDA standard, for the predictable result of a receiver interoperable with other FIR IrDA equipment.

Regarding claim 7, the combination of Akashi, Nishizono and APA discloses the arrangement according to claim 5, and disclose that the output pulse producing arrangement is comprised of a circuit for forming a first pulse (Akashi: fig. 1 element

220), a circuit for forming a second pulse (Akashi: fig. 1 element 221), a circuit for examining the input signal level (Akashi: fig. 1 element 21, where the phase selection determining the center of the detected edges involves examining the high and low signal levels), and a selection circuit (fig. 1 element 22).

Allowable Subject Matter

6. Claims 2, 4, 6, 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if the above rejections under 35 USC § 112-2nd paragraph were overcome and if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 15 July 2009 have been fully considered but they are not persuasive.

Applicant's arguments regarding the independence of output pulse duration are not persuasive because both Beard and Akashi provide such independence, as described above. Further, Applicant argues that Beard's pulse width adjustment is for a protocol completely different from Applicant's recited invention, but in general, the use of patents and patent application publications as references is not limited to what the patentees or applicants describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain. Thus, the cited teaching of Beard is relevant as applied in the combination,

regardless if Beard's overall concern involves using the teaching as part of a protocol, etc.

Also, Applicant's arguments regarding the references not disclosing the known FIR IrDA standard are not persuasive because the reference does disclose using IrDA type receives and it would have been obvious to use FIR IrDA as described above.

Applicant also argues that each output of the "delay arrangement" of Akashi is connected to both a "time reference generation arrangement" and the "output pulse product arrangement", versus Applicant's respective outputs coupled to different arrangements. This arguments is not persuasive because the claimed different arrangements are claimed broadly such that Akashi different output connections read on the limitations; the claim language does not establish the exclusivity implied by Applicant's argument (i.e. that the two outputs are each exclusively connected to one type of arrangement).

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN M. CURS whose telephone number is (571)272-3028. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NATHAN M CURS/

Primary Examiner, Art Unit 2613